

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**PENETRATING HEALER SEALER ON BRIDGE DECKS**

MNT:MF

1 of 2

C&T:APPR:DEB:EMB:04-09-07

**a. Description.** Provide all labor, materials and equipment required to prepare, clean and apply a penetrating epoxy healer/sealer system to concrete bridge decks. Perform all work according to the Standard Specifications for Construction, and this special provision.

**b. Materials.** Select the two component epoxy based healer sealer and aggregate used in conjunction with the epoxy system from the following list:

<u>Liquid Binders</u>	<u>Supplier</u>	<u>Telephone</u>
Bridge Seal	Unitex	816-231-7700
Dural 335	Tamms Industries	800-218-2667
Sikadur 55 SLV	Sika Corporation	800-933-7452
<u>Aggregate Size</u>	<u>Aggregate Supplier</u>	<u>Telephone</u>
Grade #7	Humble Sand & Gravel	918-673-1737
#612	Best Sand	800-237-4986
6x12	Dixie Cut Stone and Marble	800-783-4661
4 SB	Flat Rock Bagging Inc.	313-782-2073

The aggregate shall be angular, having less than 0.2 percent moisture, and free of dirt, clay, asphalt, and other foreign or organic materials.

**c. Equipment.** For the epoxy healer sealer, the mixing and application systems shall be capable of accurately blending the epoxy resin and hardening agent, and shall uniformly and accurately apply the epoxy materials at the specified rate to the bridge deck in such a manner as to cover 100 percent of the work area.

The fine aggregate spreader shall be propelled in such a manner as to uniformly and accurately apply dry aggregate to excess onto the applied epoxy material.

The vacuum truck shall be self-propelled to remove excess debris and aggregate.

For hand applications, equipment shall consist of calibrated containers, a paddle type mixer, notched squeegees, and stiff bristle brooms, suitable for mixing and applying the epoxy and aggregate.

**d. Construction.**

1. **Surface Preparation.** Before application of the healer sealer, clean the entire deck surface by shotblasting to remove asphaltic material, oils dirt, rubber curing compounds, paint carbonation, laitance, weak surface mortar and other detrimental materials, which may

interfere with the bonding or curing of the healer sealer. The prepared deck surface shall conform to requirements described in the International Concrete Repair Institute Guideline No. 03732, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays, concrete surface profile 3 (CSP 3). Remove all paint lines. A vacuum or oil-free moisture-free air blast is required to remove all dust and other loose material.

Do not apply the healer sealer system on concrete deck patches less than 28 days of age. Patching and cleaning operations shall be inspected and approved prior to placing the overlay. Any contamination of the deck, or to intermediate courses, after initial cleaning, shall be removed.

There shall be no visible moisture present on the surface of the concrete at the time of application of the epoxy overlay. Conduct moisture testing in accordance with ASTM D4263. A transparent polyethylene sheet (4 mil) shall be taped to the deck. All edges will be sealed with tape that will stick to the concrete substrate. The plastic sheet will be left in place for a minimum of 16 hours to detect the presence of moisture in the deck concrete. Alternate methods to detect moisture must be approved by the Engineer. There shall be no moisture visible on the polyethylene sheet. Compressed air may be used to dry the deck surface providing it is moisture and oil free.

During preparation of the surface, the expansion joints, and any other areas not to be sealed, shall be protected from damage as approved by the Engineer. The protection shall be removed once the epoxy and aggregate has been applied and prior to initial set.

2. **Application.** The epoxy manufacturer representative shall be on site during installation to ensure that all preparation and application is done according to their requirements. Apply the healer sealer according to the manufacturer's recommendations. The aggregate will be applied to excess. After the healer sealer has attained initial set, remove the excess aggregate, unless otherwise directed by the on site epoxy manufacturers representative.

**e. Measurement and Payment.** The completed work as described will be paid for at the contract unit price for the following contract item (pay item):

Contract Item (Pay Item)	Pay Unit
Penetrating Healer/Sealer on Bridge Deck.....	Square Yard